IN THE CLAIMS:

1. (Previously Presented) An apparatus comprising:

a fuel cell stack having a pair of electrodes including an anode and a cathode, and a thin film solid oxide electrolyte disposed therebetween;

a manifold coupled to the fuel cell stack for conveying a fuel to the fuel cell stack;

a fuel processor, coupled to the manifold and having:

a substrate support including at least one channel, and

a catalyst for reforming the fuel; and

an electric heater positioned in at least one location selected from: between the electrodes, and along a fuel path at a point upstream from the fuel cell stack for heating the fuel prior to the fuel reaching the fuel cell stack.

2. (Previously Presented) The apparatus of claim 1, wherein a distance between at least one of the anode and the cathode and the catalyst is less than 10 millimeters.

3. (Previously Presented) The apparatus of claim 2, wherein the distance is less than 1 millimeter.

4. (Previously Presented) The apparatus of claim 1, wherein the catalyst contacts at least one of the pair of electrodes.

5. (Previously Presented) The apparatus of claim 1, wherein the catalyst contacts the anode.

6. (Previously Presented) The apparatus of claim 1, wherein the catalyst is disposed in at least a portion of the substrate support.

7. (Previously Presented) The apparatus of claim 1, wherein the fuel cell stack, the manifold, and the fuel processor together comprise a volume less than 1 liter.

8. (Original) The apparatus of claim 1, wherein the electrolyte has a thickness less than 10 micrometers.

9. (Original) The apparatus of claim 1, wherein the catalyst has a first temperature and the electrolyte has a second temperature during operation of the apparatus, and a difference between the first temperature and the second temperature is less than 200 degrees Celsius.

10. (Original) The apparatus of claim 9, wherein at least a portion of the manifold has a third temperature during operation, and a difference between the first temperature and the third temperature is less than 200 degrees Celsius and a difference between the second temperature and the third temperature is less than 200 degrees Celsius.

11. (Original) The apparatus of claim 1, wherein the manifold includes at least one wall comprising silicon.

12. (Original) The apparatus of claim 1, wherein the manifold comprises a flow passage having at least one dimension less than 5 millimeters.

13. (Previously Presented) The apparatus of claim 1, wherein a substrate defines the manifold.

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28. (Previously Presented) The apparatus of claim 1, wherein the fuel processor comprises a combustor with the catalyst disposed therein.

29. (Previously Presented) The apparatus of claim 1, wherein the catalyst is disposed within the at least one channel.

30. (Withdrawn) The apparatus of claim 1, wherein the catalyst comprises copper-samaria-ceria.

31. (Previously Presented) The apparatus of claim 1, wherein the fuel processor further

comprises a porous catalytic membrane disposed adjacent the manifold.

32. (Previously Presented) The apparatus of claim 1, wherein the manifold comprises the support substrate integrated with the fuel processor.

33. (Previously Presented) The apparatus of claim 1, further comprising a combustor thermally coupled to the fuel processor, wherein the combustor disposed on the fuel processor and provides sufficient heat for the catalyst to reform the fuel.

34. (Previously Presented) The apparatus of claim 1, further comprising a combustor thermally coupled to the fuel processor, wherein during operation of the apparatus the combustor has a first temperature and the catalyst has a second temperature, and the combustor is thermally coupled to the fuel processor for the difference between the first temperature and the second temperature to be less than about 200 degrees Celsius.

35. (Previously Presented) The apparatus of claim 1, further comprising a combustor thermally coupled to the fuel processor, wherein the combustor includes a catalyst material.

36. (Previously Presented) The apparatus of claim 35, wherein the combustor includes at least one combustor channel and the catalyst material is positioned within the combustor channel.

37. (Previously Presented) The apparatus of claim 1, further comprising a combustor thermally coupled to the fuel processor, wherein the combustor includes a channel for combining fuel and oxidant and generating heat.

38. (Previously Presented) The apparatus of claim 1, further comprising a combustor thermally coupled to the fuel processor, wherein the combustor further comprises an electric heater.

39. (Previously Presented) The apparatus of claim 1, wherein the manifold comprises an

etched silicon-containing substrate.

40. (Previously Presented) The apparatus of claim 1, wherein the substrate support is comprised of at least one of glass, ceramic, metal, or silicon.

41. (Previously Presented) The apparatus of claim 1, wherein the at least one channel has a diameter of between about 100 micrometers and about 2 millimeters.

42. (Previously Presented) The apparatus of claim 1, wherein the catalyst includes at least one of PtRu, CuO, Cu-ZnO, alumina, and Ni.

43. (Previously Presented) The apparatus of claim 1, wherein the electric heater is a resistive heater.

44. (Previously Presented) The apparatus of claim 43, wherein the resistive heater is a thin film heater.

45. (Withdrawn) The apparatus of claim 44, wherein the thin film heater is positioned between the cathode and the anode in the fuel cell stack.

46. (Withdrawn) The apparatus of claim 1, wherein the electric heater is positioned between the cathode and the anode in the fuel cell stack.

47. (Previously Presented) The apparatus of claim 1, wherein the electrolyte has a thickness less than 10 micrometers, wherein the substrate is comprised of at least one of glass, ceramic, metal, or silicon, and further comprising a combustor thermally coupled to the fuel processor, wherein the combustor further comprises an electric heater.